MBBS I (First) Professional Examination 2015-16

Course Code: MBS103 **Paper ID**: 0322208

Biochemistry -I

Time: 2 Hours 40 Minutes **Max Marks:** 40

Note: Attempt all questions. Draw proper diagrams to support your answer.

Part 'B'

1. Write short notes on: (2x5=10)
   a) Glycolysis
   b) Transamination
   c) Allosteric enzymes
   d) Phospholipids
   e) HDL-cholesterol

2. Discuss: (4x3=12)
   a) Enzyme profile in MI(myocardial infarection)
   b) von Gierke's disease
   c) Diagnosis of diabetes mellitus
   d) Biochemical role of tryptophan

3. Explain the following: (2x4=8)
   a) Primary & secondary Gout
   b) Regulation of gluconeogenesis

4. Write in detail: (5x2=10)
   a) Sources & fate of acetyl CoA
   b) Fatty Liver

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Roll No. **Student's Name**

Student's Signature **Invigilator's Signature**

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Biochemistry - I

Part 'A'

Time: 20 Minutes **Max Marks:** 10

Note: 1. Attempt all questions and return this part of the question paper to the invigilator after 20 Minutes.
2. Please tick (√) correct one only. Cutting, overwriting or any other marking are not allowed.
3. For answering please use Ball- pen only.

c) β oxidation of fatty acid
d) Fatty acid synthesis

Q.2 Erythrocyte glucose transporter is an example of:
a. Facilitated diffusion
b. Ion driven active transport
c. Active transport
d. Simple diffusion

Q.3 Which is the non essential amino acid:
a) Tyrosine
b) Lysine
c) Valine
d) Phenyl alanine

Q.4 All of the following hormones have membrane receptors except:
a) Insulin b) Epinephrine
c) Glucagon d) Thyroxine

Q.5 In sickle cell anemia the genetic defect is:
a) replacement of glutamic acid by valine in β chain of Hb
b) replacement of valine by glutamic acid in β chain of Hb
c) replacement of aspartic acid by valine in β chain of Hb
d) replacement of valine by aspartic acid in β chain of Hb

Q.6 Which contains copper:
a) Cytochrome oxidase
b) Cytochrome b5
c) Coenzyme Q
d) Cytochrome P450

Q.7 In enzyme kinetics Km implies:
a) The substrate concentration that gives one half Vmax
b) The dissocation constant for the enzyme substrate comples
c) Concentration of enzyme
d) Half of the substrate concentration required to achieve Vmax

Q.8 Coenzymes are:
a) Heat stable, dialyzable, non protein organic molecules

Q.9 The isoenzymes of LDH:
a) Differ only in a single amino acid
b) Differ in catalytic activity
c) Exist in 5 forms depending on M and H monomer contents
d) Occur as monomers

Q.10 Lineweaver – Burk double reciprocal plot is related to:
a) Substrate concentration
b) Enzyme activity
c) Temperature
d) Both (A) and (B)

P.T.O.

Q.11 Osazones are not formed with the:
a) Glucose
b) Fructose
c) Sucrose
d) Lactose

Q.12 Which one of the following statements concerning glucose metabolism is correct:
a) The conversion of Glucose to lactate occurs only in the R.B.C
b) Glucose enters most cells by a mechanism in which Na+ and glucose are co- transported
c) Pyruvate kinase catalyses an irreversible reaction
d) An elevated level of insulin leads to a decreased level of fructose 2, 6-bisphosphate in hepatocyte

Q.13 HMP Shunt pathway is important for all the following except:
a) Generation of ATP
b) Fatty acid biosynthesis
c) Synthesis of reduced glutathione
d) Synthesis of ribose

Q.14 The 2 nitrogen atoms in urea are contributed by:
a) Ammonia and glutamate
b) Glutamine and glutamate
c) Ammonia and aspartate
d) Ammonia and alanine

Q.15 Tryptophan could be considered as precursor of:
a) Melatonin
b) Thyroid hormones
c) Melanin
d) Epinephrine

Q.16 All of the following enzymes are secreted as proenzymes except:
a) Trypsin
b) Chymotrypsin
c) Pepsin
d) Ribonuclease

Q.17 Cholesterol is transported from liver to extrahepatic tissues by:
a) Chylomicrons
b) VLDL
c) HDL
d) LDL

Q.18 Adipose tissue lacks:
a) Hormone-sensitive lipase
b) Glycerol kinase
c) cAMP-dependent protein kinase
d) Glycerol-3-phosphate dehydrogenase

Q.19 Carnitine is required for the transport of:
a) Triglycerides out of liver
b) Triglycerides into mitochondria
c) Short chain fatty acids into mitochondria
d) Long chain fatty acids into mitochondria

Q.20 . Lesch-Nyhan syndrome, the sex linked recessive disorder is due to the lack of the enzyme:
a) Hypoxanthine-guanine phosphoribosyl transferse
b) Xanthine oxidase
c) Adenine phosphoribosyl transferase
d) Adenosine deaminase